

REMARKS

This application contains claims 1-39. Claims 14-39 were withdrawn, with traverse, in response to a restriction requirement. Claim 1 is hereby amended, and claims 2 and 4 are canceled without prejudice. No new matter has been added. Reconsideration is respectfully requested.

Claims 1, 2, 3, 5 and 11-13 were rejected under 35 U.S.C. 103(a) over Lasser et al. (U.S. Patent 5,897,638) in view of Lawthers ("The Data Management Applications Programming Interface"). In response to this rejection, Applicant has amended claim 1 to incorporate the limitations of claims 2 and 4, now canceled, so as to more clearly distinguish the present invention over the cited art.

Claim 1 as amended is drawn to a method for managing data storage, in which a session of a data management (DM) application is initiated on a session node in a cluster, using a data management application programming interface (DMAPI) of a parallel file system in the cluster. A user application runs on a source node in the cluster. The user application running on the source node submits a request to the parallel file system to perform a file operation on one of the files in the data storage. In response to this request, a notification of a DM event is sent to the session node for processing by the DM application. The event is processed at the session

node in order to obtain a data management access right, which is then used in performing the file operation.

Lasser describes a parallel virtual file system, which is used to manage partitioned files. Lawthers describes a conventional, single-node DMAPI, and makes no reference to parallel file systems. As noted by the Examiner (page 6, fourth paragraph, in the present Official Action, in reference to claim 4), neither Lasser nor Lawthers discloses the use of source and session nodes. Thus, they cannot be taken to suggest the steps recited in amended claim 1 of sending a DM event notification to the session node, and of processing the event at the session node in obtaining a data management access right. Therefore, Applicant respectfully submits that claim 1 is patentable over Lasser in view of Lawthers.

As noted above, claim 1 now incorporates the limitations of canceled claims 2 and 4. In rejecting claim 4, the Examiner cited Worfolk et al. (U.S. Patent Application Publication US 2003/0128687 A1) as allegedly teaching the elements of claim 4 that are missing from Lasser and Lawthers. Applicant questions the basis for this assertion. Worfolk describes a multi-path dynamic routing algorithm for optimizing the throughput of a communication network. The algorithm is based on computing a measure of the congestion of a path in the network, based on node metrics of traffic load.

Although Worfolk refers to "source nodes" and "sessions," these terms are used in a completely different sense and context from their use in the present patent application. Worfolk uses the term "source node" in the conventional manner, to indicate the point from which a communication signal is transmitted (see paragraph 3, for example). He uses the term "session" to refer to an exchange of messages (paragraph 32). It is not clear from the Examiner's remarks which actions of the source node described by Worfolk correspond to sending a DM event notification in response to a file operation request, or where and how this event might be processed in connection with obtaining an access right for performing a file operation.

Claim 1 uses the terms "session node" and "source node" in a clear, well-defined manner, to refer to computing nodes in a cluster. The session node is the node on which a data management application runs, while a user application runs on the source node. The claim recites a specific type of interaction between the source and session nodes in connection with file operations, event processing and access rights.

Applicant respectfully submits that Worfolk neither teaches nor suggests these elements of claim 1, which are also absent from Lasser and Lawthers. Thus, claim 1 as amended is believed to be patentable over Lasser in view of Lawthers and

further in view of Worfolk. In view of the patentability of claim 1, claims 3, 5 and 11-13, which depend from claim 1, are believed to be patentable, as well.

Claims 4 and 6-10 were rejected under 35 U.S.C. 103(a) over Lasser in view of Lawthers, and further in view of Worfolk, Wecker (US 6,289,464) and/or Molloy (US 6,625,601). Claim 4 has been canceled. In view of the patentability of amended claim 1, from which claims 6-10 depend, Applicant believes these dependent claims to be patentable, as well, over the cited art.

Furthermore, although the arguments above relate specifically to the patentability of claim 1, Applicant believes the dependent claim to recite subject matter that is independently patentable. For example, claim 6 recites that the data management lock is held over a sequence of multiple kernel calls in the parallel file system. Although Wecker describes making a kernel call to lock certain driver code and buffers (col. 19, lines 9-11), he neither teaches nor suggests that a lock of any kind - let alone a data management lock - be held over a sequence of multiple kernel calls. Thus, claim 6 is believed to be independently patentable over the cited art. Similar arguments may be made with regard to the other dependent claims, but they are omitted here for the sake of brevity.

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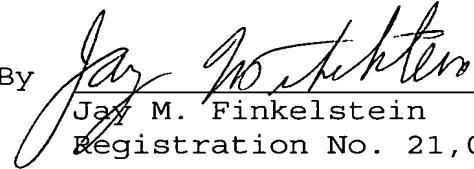
Reply to Office Action of December 23, 2003

Applicant believes the amendments and remarks presented hereinabove to be fully responsive to all of the grounds of rejection raised by the Examiner. In view of these amendments and remarks, applicant respectfully submits that all of the claims in the present application are in order for allowance. Notice to this effect is hereby requested.

Respectfully submitted,

BROWDY AND NEIMARK, P.L.L.C.  
Attorneys for Applicant

By

  
\_\_\_\_\_  
Jay M. Finkelstein  
Registration No. 21,082

JMF:mch

Telephone No.: (202) 628-5197

Faxsimile No.: (202) 737-3528

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